

Preparing patients with serious mental illness for extreme HEAT

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Climate change is causing intense heat waves that threaten human health across the globe.¹ Given their unique biological, behavioral, and social factors, patients with serious mental illness (SMI)—which includes schizophrenia spectrum disorders, bipolar disorder, and severe depression—are at higher risk of developing and dying from heat-related illnesses such as heat exhaustion and heat stroke.¹ In this article, we discuss factors that increase the risk of heat-related illnesses in patients with SMI and outline steps you can take to educate and prepare patients for heat waves.

A confluence of factors increases risk

Thermoregulatory dysfunction is thought to be intrinsic to patients with schizophrenia partly due to dysregulated dopaminergic neurotransmission.² This is compounded by these patients' higher burden of chronic medical comorbidities such as cardiovascular and respiratory illnesses, which together with psychotropic (ie, antipsychotics, antidepressants, lithium, benzodiazepines) and medical medications (ie, certain antihypertensives, diuretics, treatment for urinary incontinence) further disrupt the body's cooling strategies and increase vulnerability to heat-related illnesses.^{1,3} Antipsychotics commonly prescribed to patients with SMI increase hyperthermia risk largely by 2 mechanisms: central and peripheral thermal dysregulation, and anticholinergic properties (ie, olanzapine, clozapine, chlorpromazine).^{2,3} Other anticholinergic medications prescribed to treat extrapyramidal symptoms (ie, diphenhydramine, benztropine, trihexyphenidyl), anxiety, depression, and

insomnia (ie, paroxetine, trazodone, doxepin) further add insult to injury because they impair sweating, which decreases the body's ability to eliminate heat through evaporation.^{2,3} Additionally, high temperature exacerbates psychiatric symptoms in patients with SMI, resulting in increased hospitalizations and emergency department visits.¹ Patients with SMI also commonly have cognitive deficits, which may interfere with their ability to prepare for extreme heat and make it difficult for them to protect themselves. Finally, patients with SMI often have lower socioeconomic status with reduced access to air conditioning.^{1,2}

How to keep patients safe

The acronym HEAT provides a framework that psychiatrists can use to highlight the importance of planning for heat waves in their institution and guiding discussions with individual patients about heat-related illnesses (*Table 1, page 28*).

Help the health care system where you work plan and prepare for heat waves. In-service training in mental health settings such as outpatient clinics, shelters, group homes, and residential programs can help

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Teach patients, caregivers, and staff the signs and symptoms of heat exhaustion and heat stroke

Table 1

HEAT: Protecting patients against dangerous heat waves

H: Help plan and prepare for heat waves
E: Educate about preventing heat-related illnesses
A: Assess risk factors for heat-related illnesses
T: Teach warning signs of heat exhaustion and heat stroke

Table 2

Heat-related illnesses: Additional resources

Heat stroke prevention (1-page patient handout) https://smiadviser.org/wp-content/uploads/2022/08/SMI-Heat-Stroke-ver1.0-FINAL.pdf
Climate Psychiatry Alliance www.climatepsychiatry.org

staff identify patients at particular risk and reinforce key prevention messages.

Educate patients and their caregivers on strategies for preventing heat-related illness. Informational materials can be distributed in clinics, residential settings, and day programs. A 1-page downloadable pamphlet available at <https://smiadviser.org/wp-content/uploads/2022/08/SMI-Heat-Stroke-ver1.0-FINAL.pdf> summarizes key prevention messages of staying hydrated, staying cool, and staying safe.

Assess personalized heat-related risks. Inquire about patients’ daily activities, access to air conditioning, and water intake. Minimize the use of anticholinergic medications. Identify who patients can turn to for assistance, especially for those who struggle with cognitive impairment and social isolation.

Teach patients, caregivers, and staff the signs and symptoms of heat exhaustion and heat stroke and how to respond in such situations.

HEAT focuses psychiatric clinicians on preparing and protecting patients with SMI against dangerous heat waves. Clinicians can take a proactive leadership role in disseminating basic principles of heat-related illness prevention and heat-wave toolkits by using resources available from organizations such as the Climate Psychiatry Alliance (Table 2). They can also initiate advocacy efforts to raise awareness about the elevated risks of heat-related illnesses in this vulnerable population.

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